

City of Toronto Winter Maintenance Review



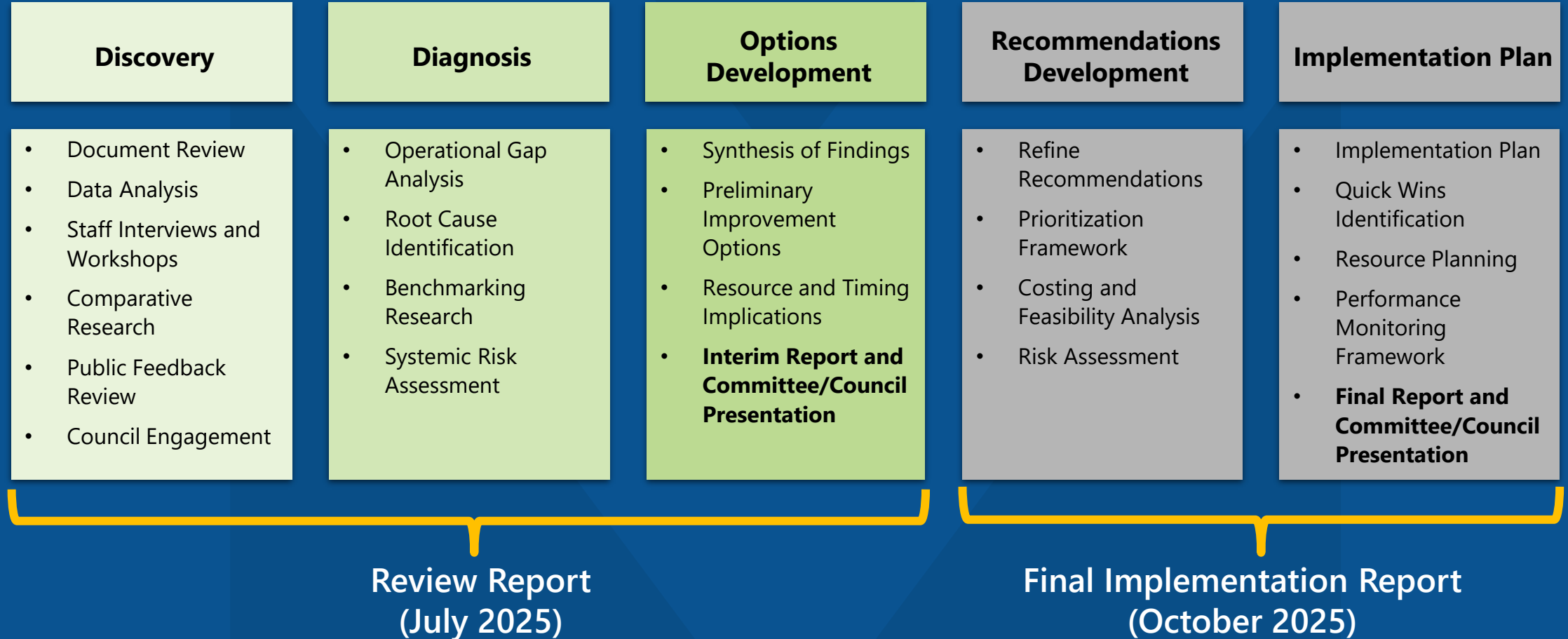
Executive Committee
July 16, 2025

Presented by: Municipal VU Consulting Inc.

Project Overview



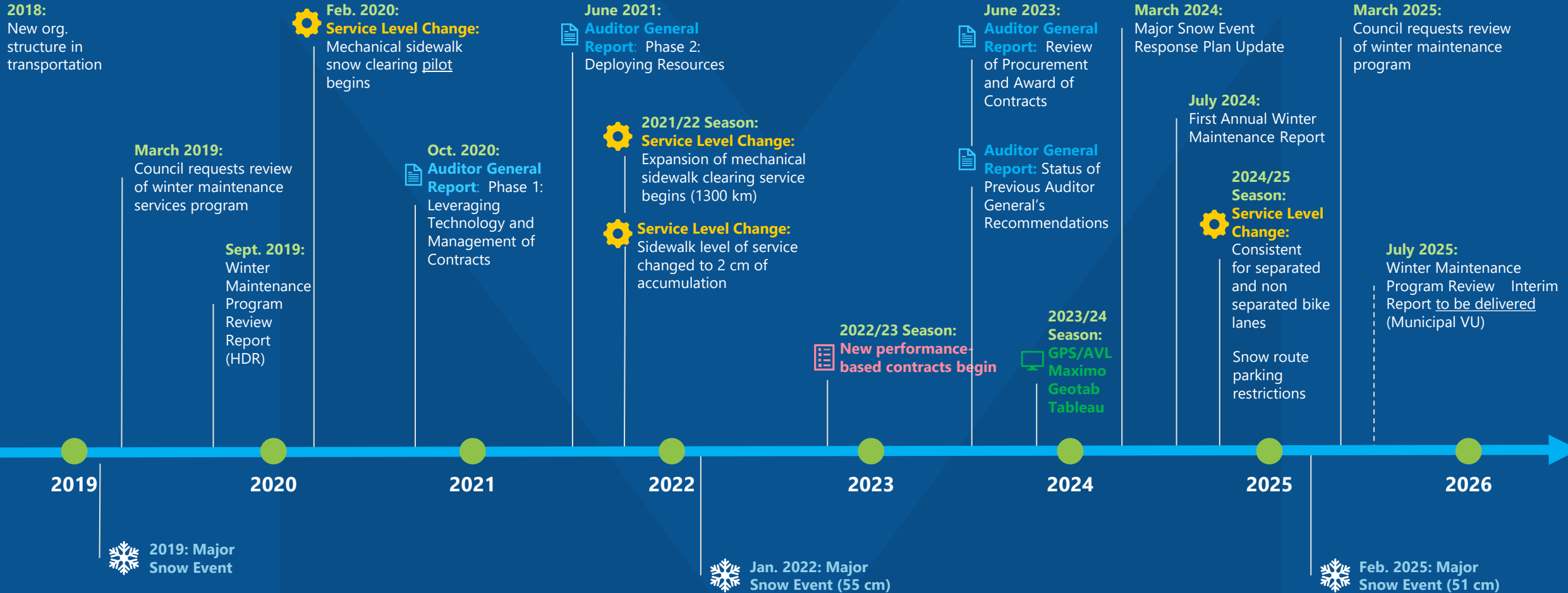
Project Workplan



Recent History of Winter Operations

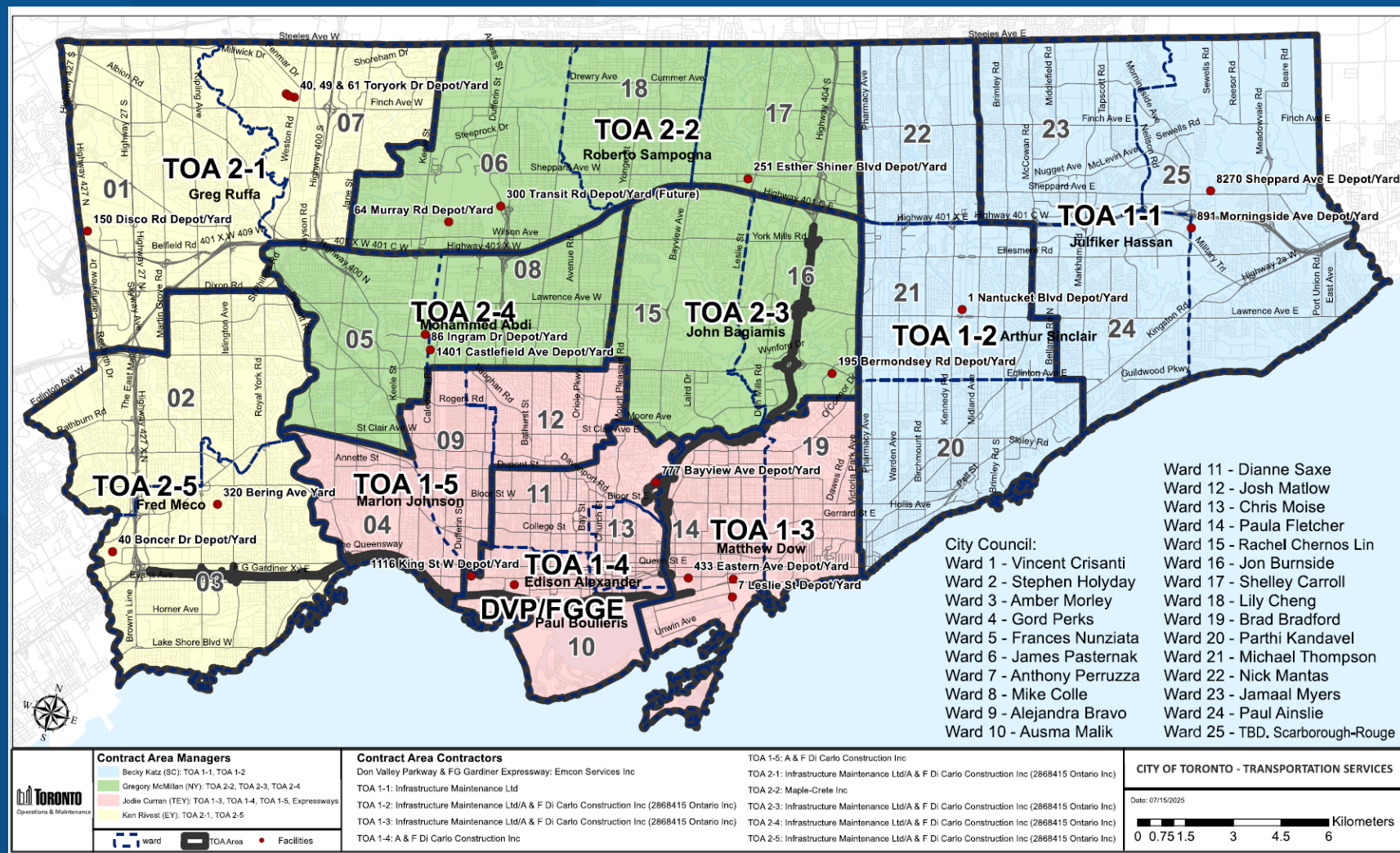


Toronto Winter Maintenance History



Performance Based Contracts (11 Zones)

- Consolidated contracting model – 11 Zones/Contracts from 47
 - Geographical Based – One contractor responsible for all winter maintenance within their zone (except downtown sidewalks)
- Performance Based Contract
 - Incentive/disincentive model
 - Service level requirements include meeting both operating time and desired pavement condition
- Contractors have authority to use equipment necessary to meet the service standard and to design most effective way to accomplish their beats
- 5 Principal Contractors**



Dashboard and Tracking of Automatic Vehicle Location (AVL) using Global Positioning Systems (GPS)



Major Storm Event Response Plan

Guiding Principles of the Framework for the Major Snow Event Response Plan



SAFETY



ACCESS



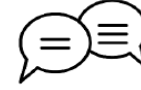
MOBILITY



ENVIRONMENT



EFFICIENCY



COMMUNICATION

FIVE PHASE ACTION PLAN

1.

Base Planning

- Pre-planning that takes place before the season that considers factors that are constant.

2.

Action Planning

- Action planning of the base plan which takes place when a major snow event is imminent.
- Variables are considered including weather (temperature and conditions), available equipment, people resources etc.

3.

Implementation

- Execution of base plan and action plan outlined in phases 1 and 2.

4.

Tracking and Documentation

- Tracking, and documentation takes place once the action plan is implemented.
- Database of outcomes that can be compared to the plan.

5.

Post storm Analysis

- Observed results and outcomes are reviewed against original plan.
- Successes and areas for improvement are identified, updates are made to the base and action plan.

- Data driven approach in Base and Action Planning

- Plan brought forward in Mar 2024
- Updates and further details in *July 2024 Winter Update*
- First major update of the Plan in the previous 10 years
- First Major Storm Event with the new Plan



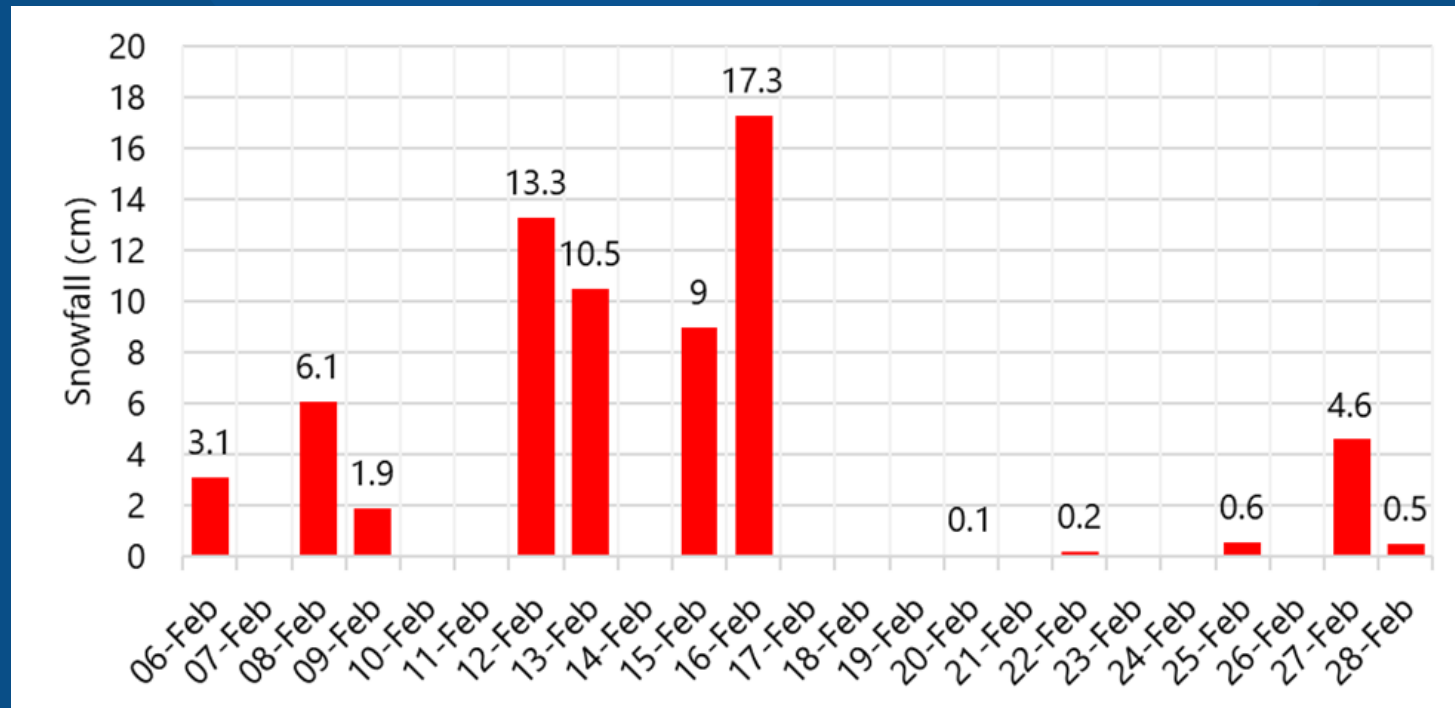
The February 2025 Storm Event

Feb 2025 Storm

Three large snow events, back-to-back-to-back:

- Sat Feb 8 evening into Sun Feb 9 morning: **8 cm snow** (-2 to -4°C)
- Wed Feb 12 afternoon into Thurs Feb 13 morning – **23.8 cm snow** (-6 to -8°C)
- Major Snowstorm Condition & Significant Weather Event declaration Feb 12 at 10pm
- Sat Feb 15 morning into Sun Feb 16 afternoon – **26.3 cm snow** (-2 to -8°C)

Total of 58 cm of snow accumulation from Feb 8 to Feb 16



The Preparation

- General:
 - Starts in the early fall with contractors and staff meetings and workshops
 - Training - Snow School for all Operations staff
 - New **Major Storm Event Response Plan** developed throughout 2024
 - Published Winter Service Guide for Councillors and held information sessions
- Pre-Storm:
 - WSP weather reports analyzed
 - Winter conference call Feb 6-7
 - Met with contractors to review plan
 - Fleet services provides extended service hours for sidewalk machinery
 - Operational preparations documented
 - Six winter Councillor advisories issued
 - Media bulletin Feb 7

The Response

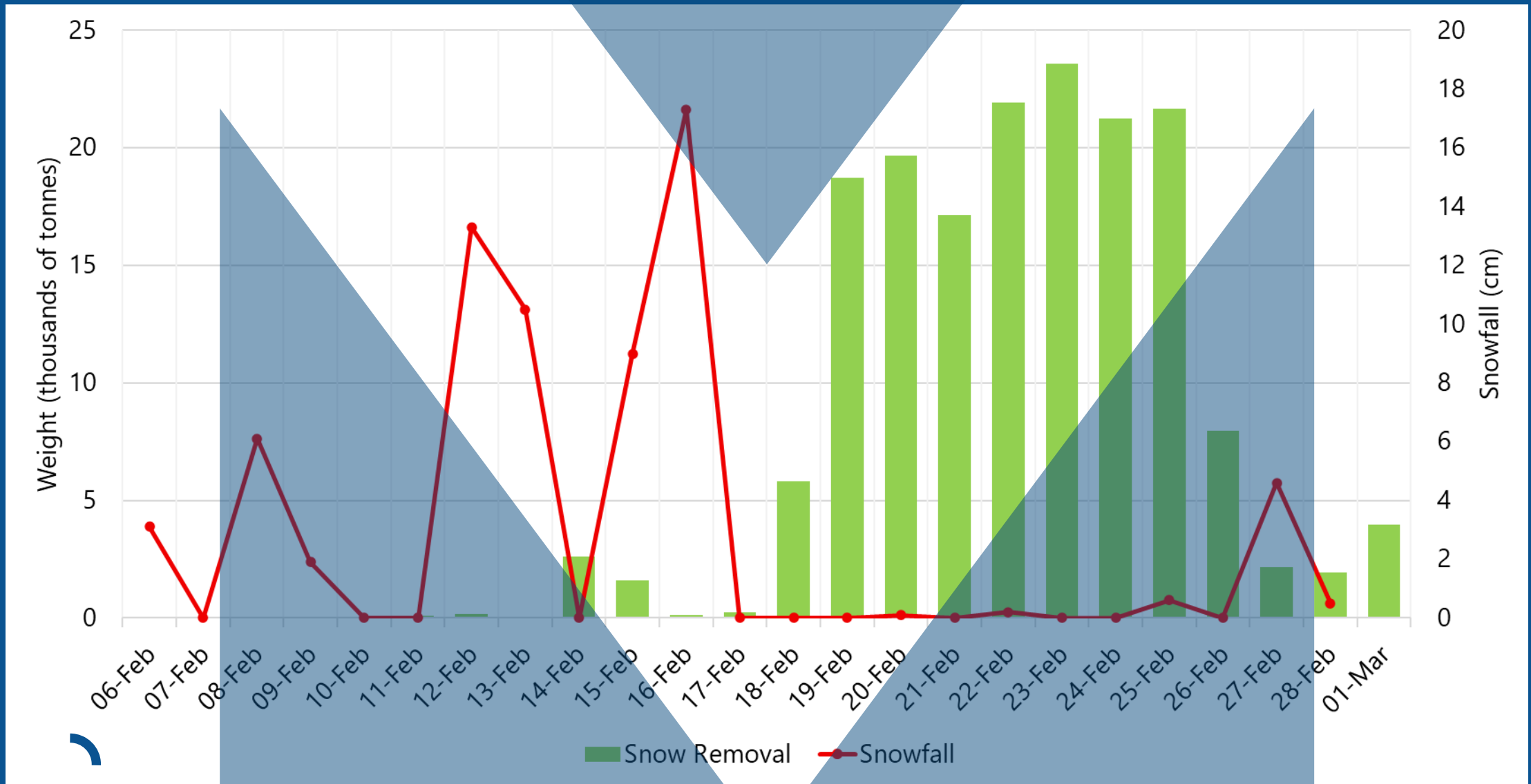


Activation Summary

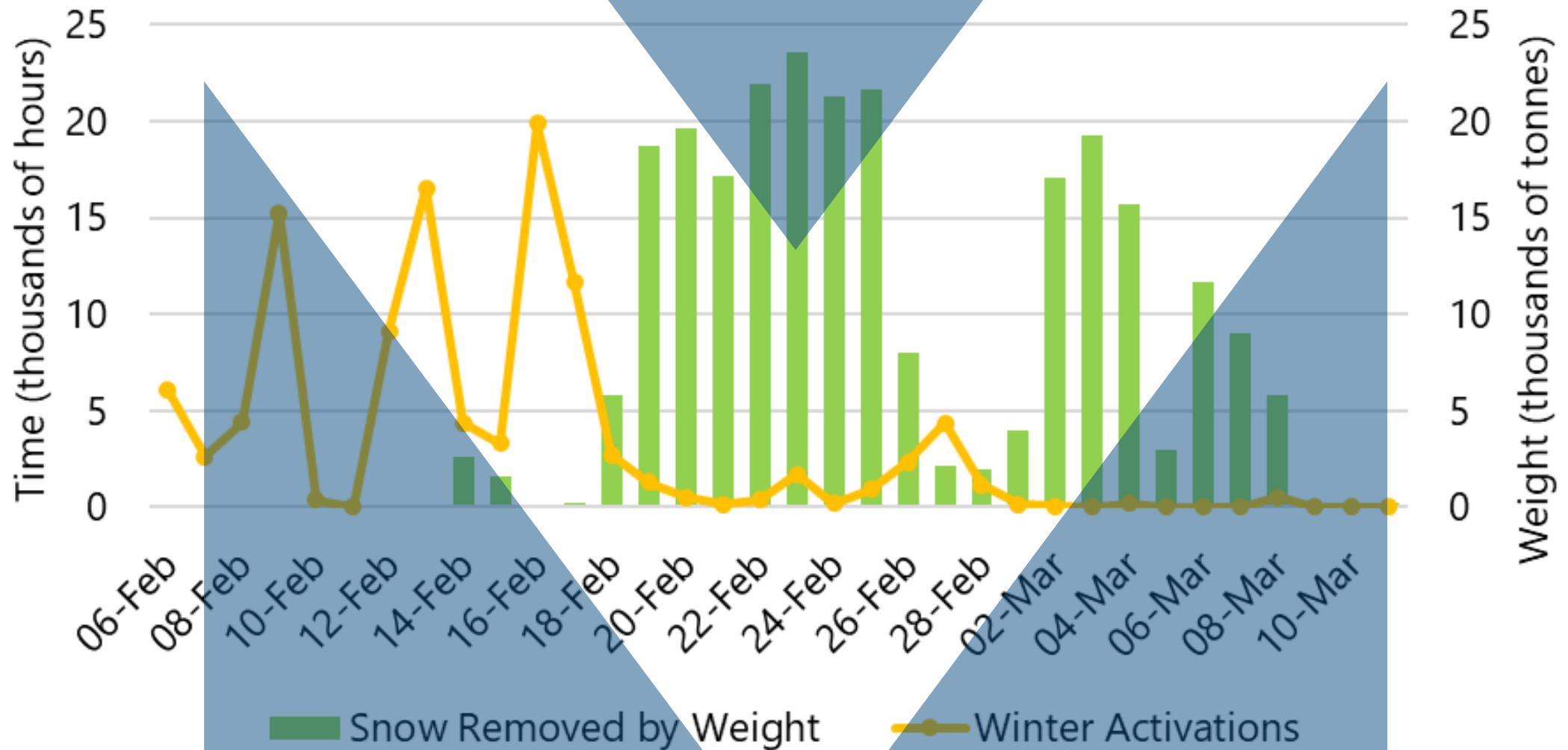
| Contract Area | % Completed on Time Feb 6-11 | MOT Applicable Activations Feb 6-11 | % Completed on Time Feb 12-28 | MOT Applicable Activations Feb 12-28 |
|--------------------|---------------------------------|--|----------------------------------|---|
| DVP-FGGE | 33%* | 3 | 33%* | 4 |
| TOA1-1 | 90% | 21 | 70% | 37 |
| TOA1-2 | 89% | 19 | 76% | 41 |
| TOA1-3 | 95% | 19 | 83% | 34 |
| TOA1-4 | 84% | 19 | 76% | 35 |
| TOA1-5 | 100% | 19 | 92% | 44 |
| TOA2-1 | 95% | 21 | 85% | 29 |
| TOA2-2 | 91% | 23 | 75% | 30 |
| TOA2-3 | 100% | 23 | 89% | 40 |
| TOA2-4 | 89% | 28 | 90% | 53 |
| TOA2-5 | 95% | 21 | 71% | 27 |
| Grand Total | 92% | 216 | 80% | 374 |

*MOT were not met due to heavy traffic congestion.

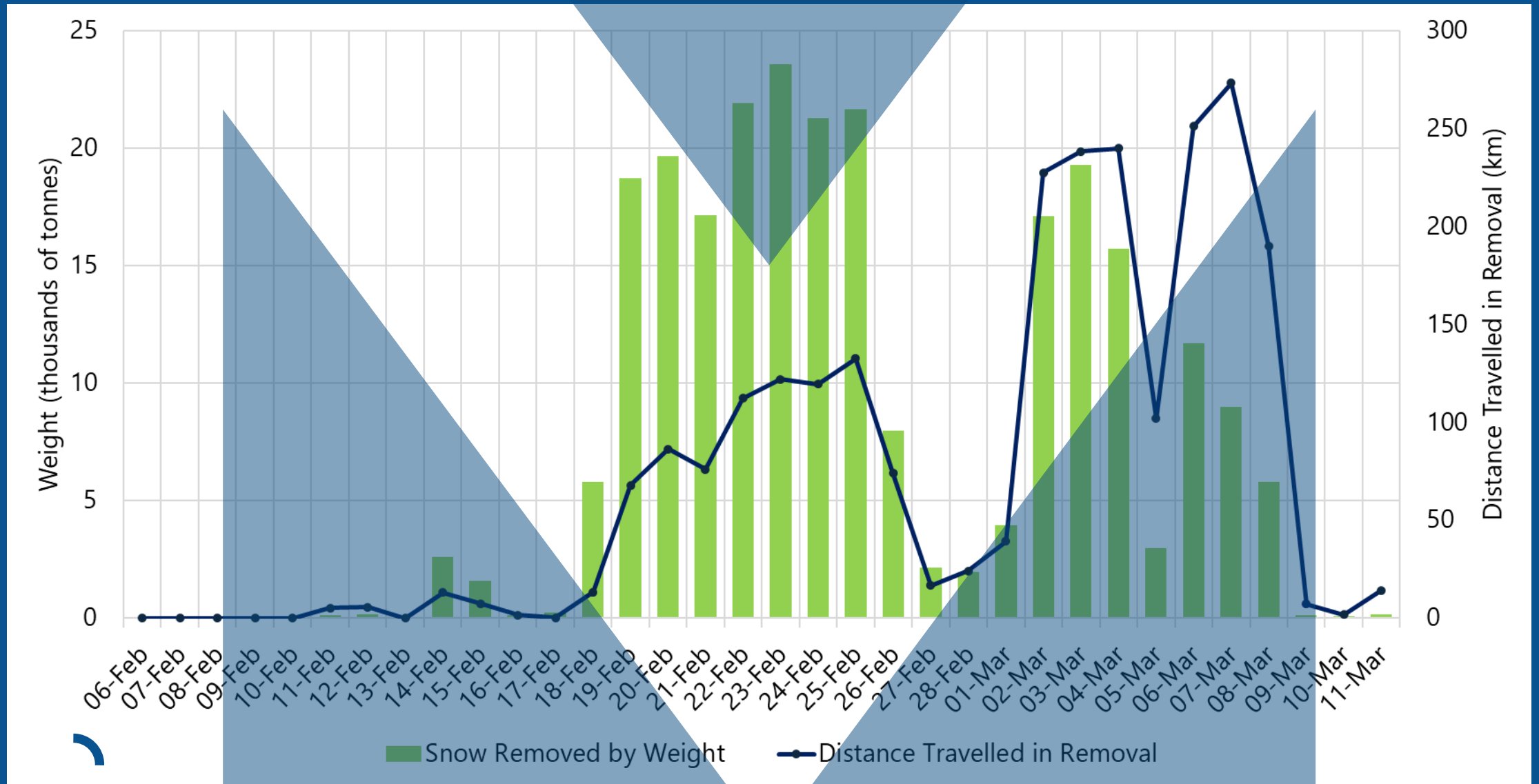
Snowfall vs. Snow Removal



Winter Activations vs. Snow Removal

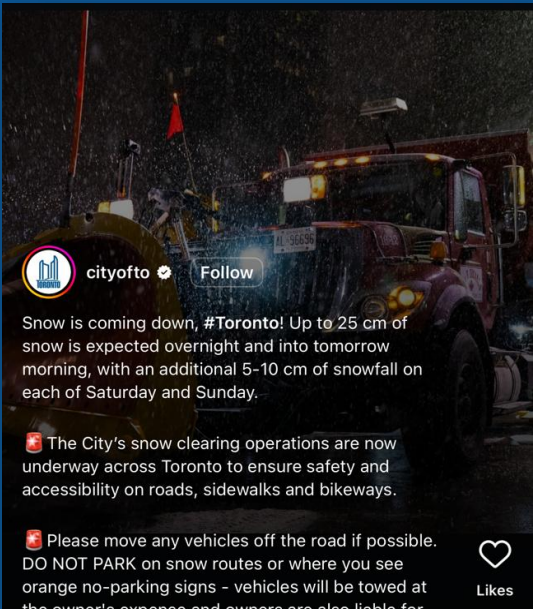


Snow Removal: Tonnage & Distance



The Aftermath





cityofto Follow

Snow is coming down, #Toronto! Up to 25 cm of snow is expected overnight and into tomorrow morning, with an additional 5-10 cm of snowfall on each of Saturday and Sunday.

The City's snow clearing operations are now underway across Toronto to ensure safety and accessibility on roads, sidewalks and bikeways.

Please move any vehicles off the road if possible. DO NOT PARK on snow routes or where you see orange no-parking signs - vehicles will be towed at the owner's expense and owners are also liable for fines.

If you're wondering where the plows are, track their real-time locations at toronto.ca/snow

#SnowTO

February 12

CityNews Everywhere News Watch Listen Weather Traffic Gas Prices Contests & Events

City of Toronto declares 'major snowstorm condition' ahead of incoming winter storm




A City of Toronto snow plow applies salt to a downtown arterial road. CITYNEWS / File / Nick Westoll

Toronto

Winter storm continues to batter Toronto, causing hazardous travel conditions, flight delays

Heavy snowfall that began Saturday afternoon is expected last until Sunday night, Environment Canada says

Ethan Lang, Sarah Petz · CBC News · Posted: Feb 16, 2025 8:34 AM EST | Last Updated: February 16



air travel in Toronto Sunday, as a winter storm warning (Jérémie Bergeron/Radio-Canada)

CANADA

Toronto winter storms may take 3 weeks to clear with snow removal: city

By Gabby Rodrigues · Global News

Posted February 17, 2025 11:55 am · Updated February 17, 2025 12:29 pm · 3 min read



WATCH: GTA digs out after being hit with another winter storm. Lexy Benedict reports – Feb 16, 2025

Toronto digs out from biggest winter storm in more than three years as more snow on the way

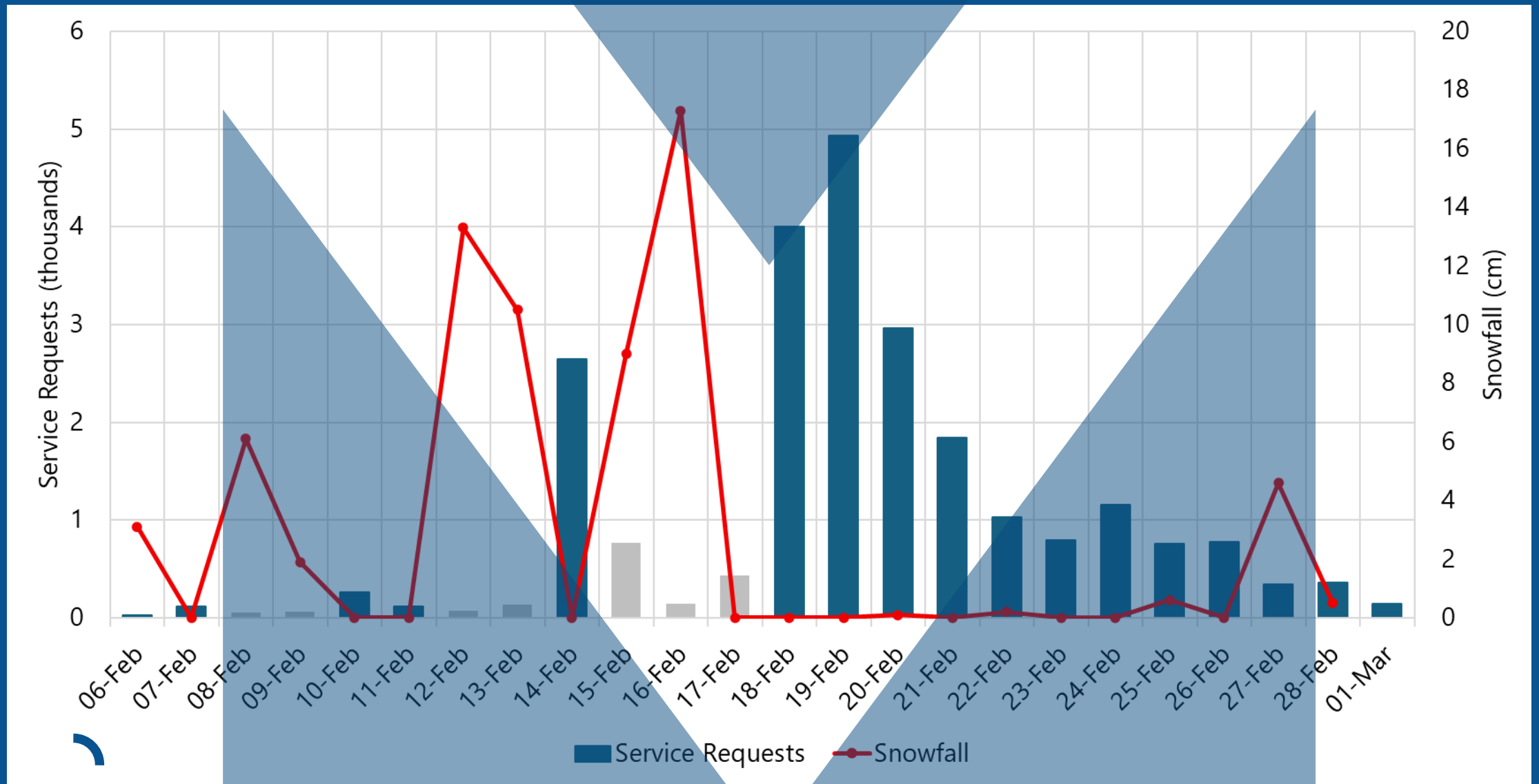
By Codi Wilson, Jermaine Wilson, Laura Sebben, and Bryann Aguilar

Updated: February 13, 2025 at 1:40PM EST
Published: February 13, 2025 at 5:26AM EST

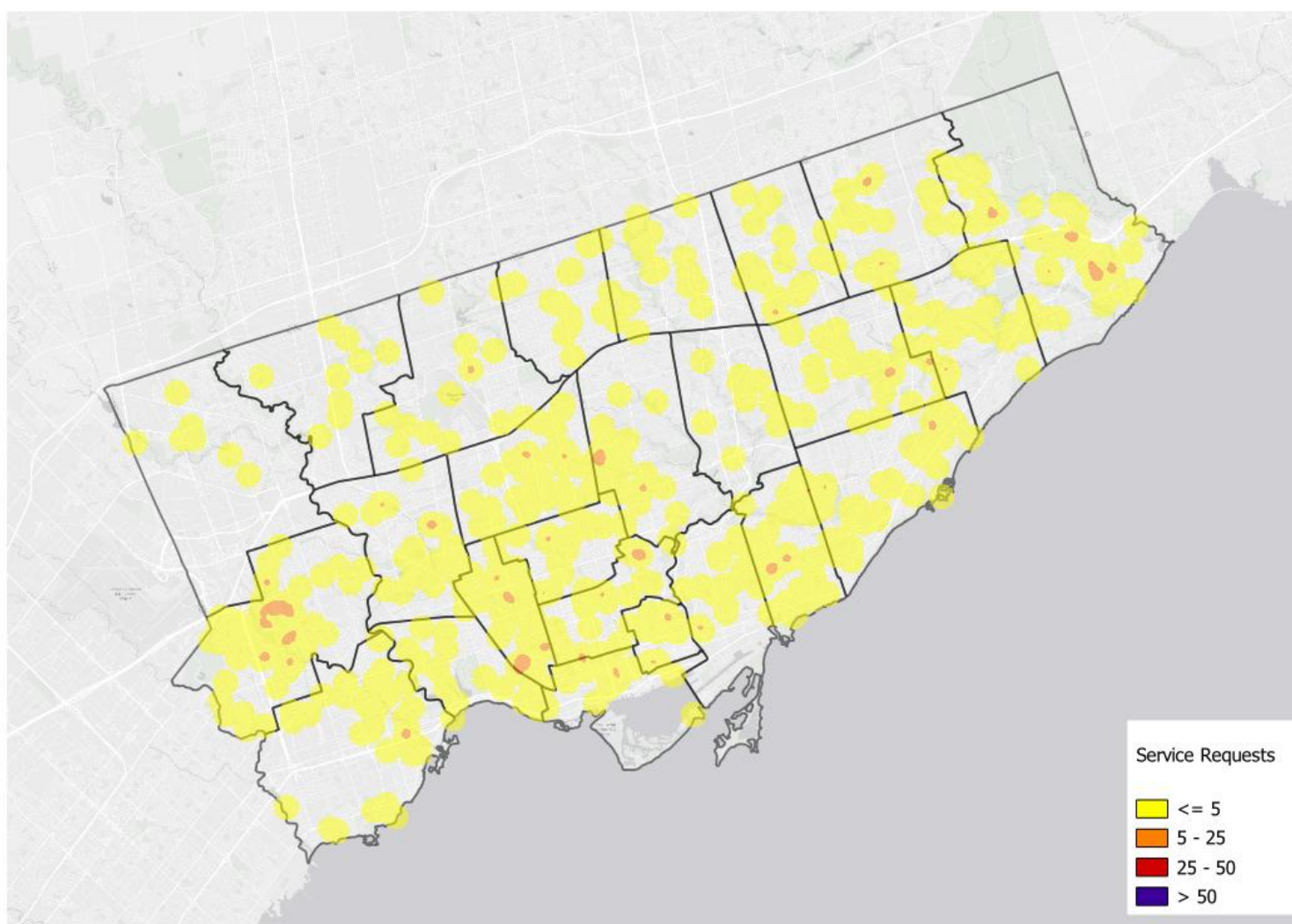


Children toboggan down a hill following heavy snow in Toronto, Thursday, Feb. 13, 2025. THE CANADIAN PRESS/Arlyn McAdorey (Arlyn McAdorey/The Canadian Press)

Snowfall vs. Service Requests



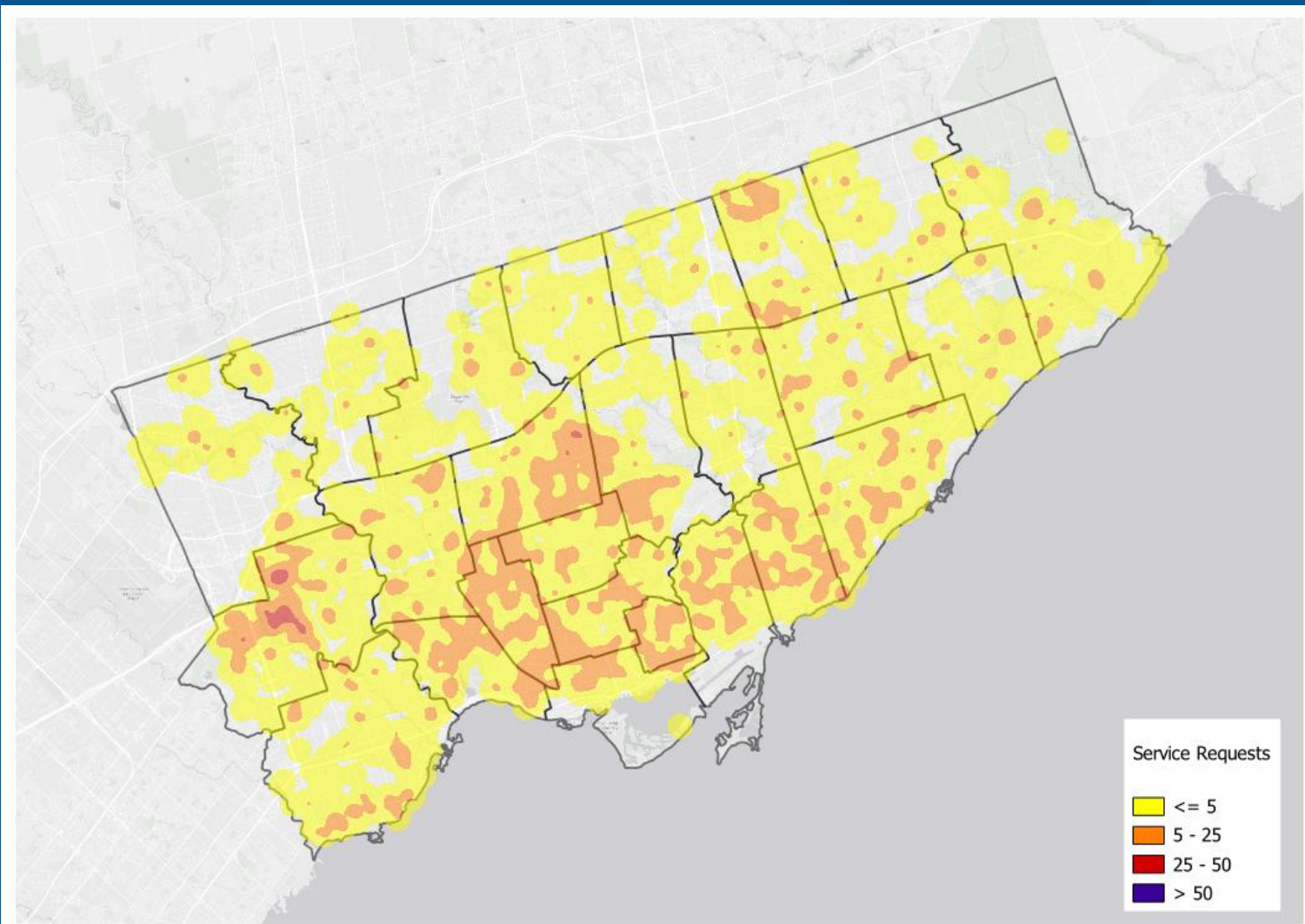
Total SR – February 6 to February 11, 2025



| Problem Code | Count |
|-------------------------------|-------|
| Road Plowing Required | 122 |
| Sidewalk Icy, Needs Sand/Salt | 117 |
| Sidewalk Snow Clearing | 116 |

| Total Service Requests |
|------------------------|
| 633 |

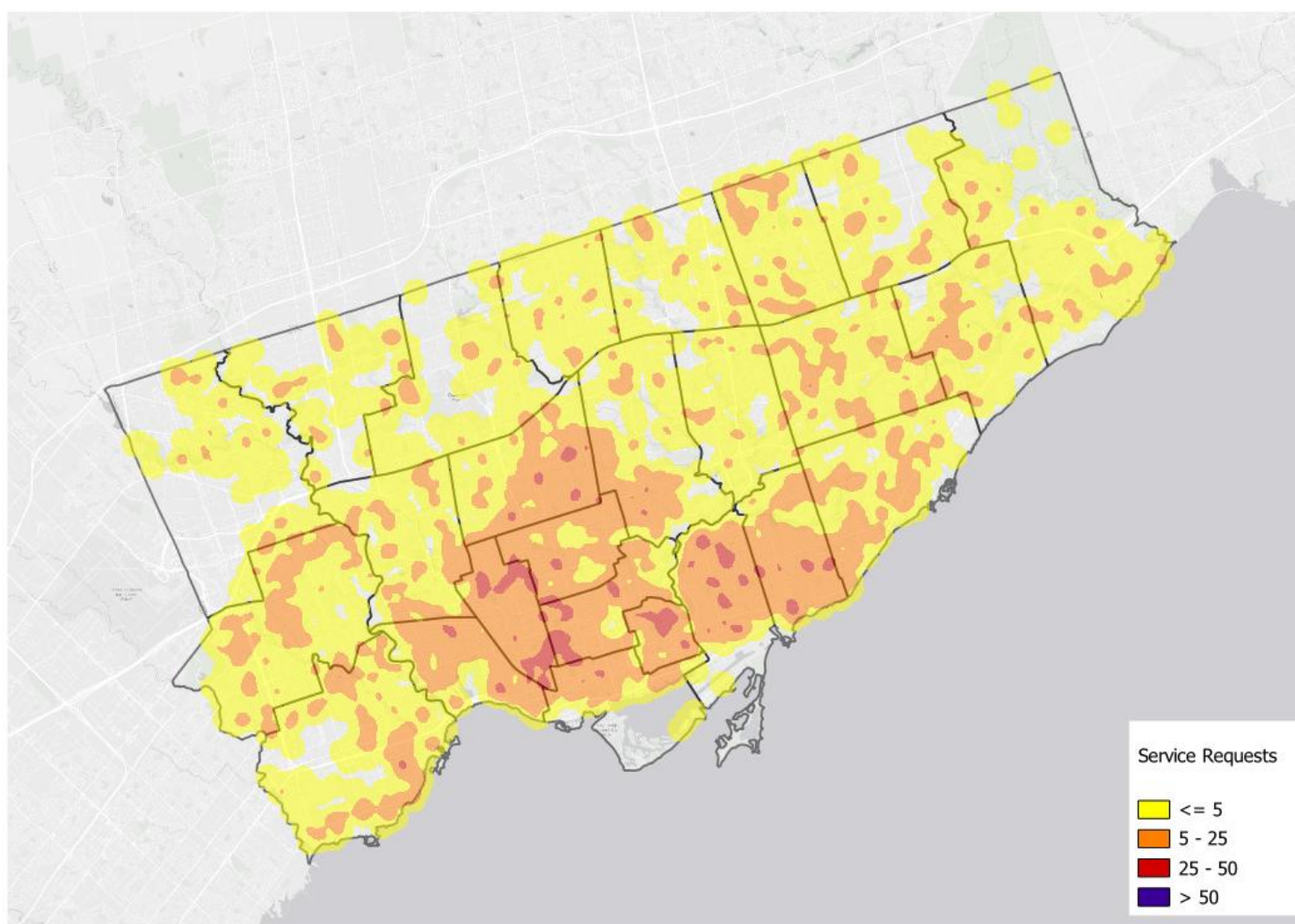
Total SR – February 12 to February 14, 2025



| Problem Code | Count |
|-----------------------------|-------|
| Driveway-Blocked By Windrow | 876 |
| Sidewalk Snow Clearing | 773 |
| Road Plowing Required | 692 |

| Total Service Requests |
|------------------------|
| 2,846 |

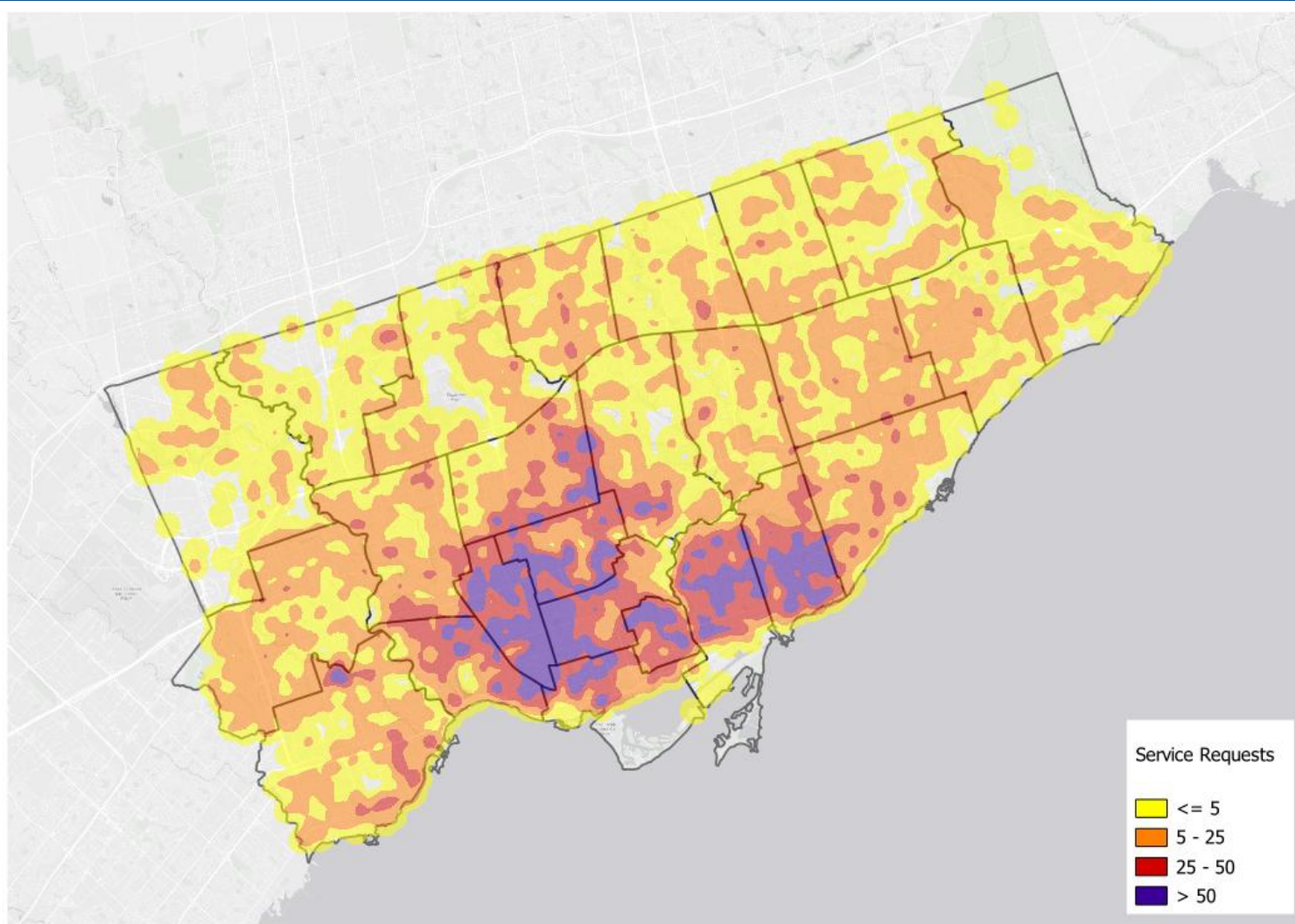
Total SR – February 15 to February 18, 2025



| Problem Code | Count |
|-----------------------------|-------|
| Sidewalk Snow Clearing | 1872 |
| Driveway-Blocked By Windrow | 1132 |
| Road Plowing Required | 1119 |

| Total Service Requests |
|------------------------|
| 5,359 |

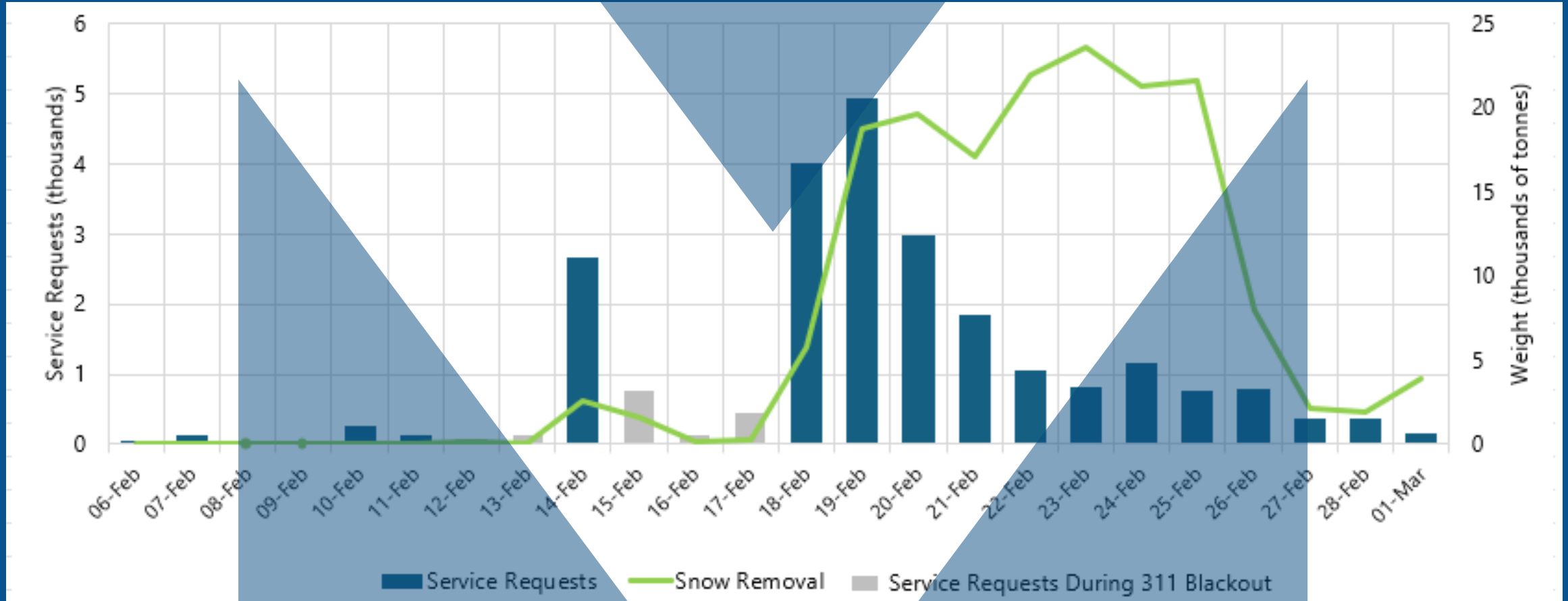
Total SR – February 19 to February 28, 2025



| Problem Code | Count |
|-----------------------------|-------|
| Sidewalk Snow Clearing | 6219 |
| Road Plowing Required | 3131 |
| Driveway-Blocked By Windrow | 1636 |

| Total Service Requests |
|------------------------|
| 14,993 |

Service Requests vs. Snow Removal



Key Findings

Strengths/Successes



Staff and Contractors worked tirelessly throughout the event

Staff have a passion and a continuous improvement mindset



Declaration of a Major Snowstorm Condition

Worked well and allowed staff and contractors to enact certain emergency measures (parking, road closures, etc.)



Inter-Divisional Coordination

Emergency Operations Centre enacted, and Toronto Water, Solid Waste, Parking, and Transit all cooperated and supported



Technology and Tools

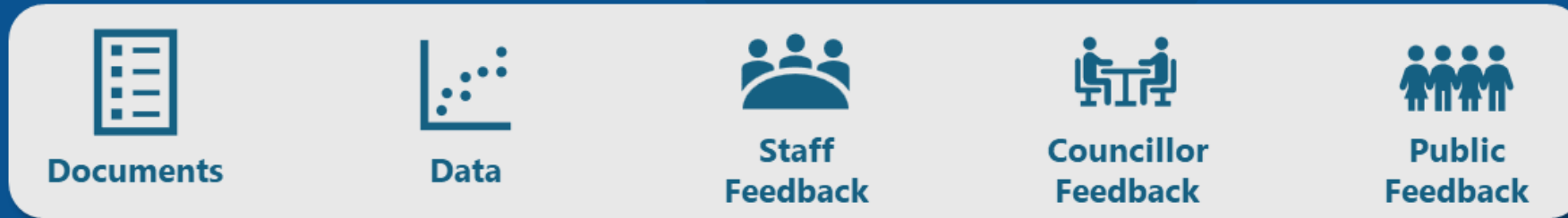
Improvement in digital location tracking over 2022

Maximo helped staff track contractor, activations & service requests



Highways, arterials & collectors generally accessible & met service standards

Challenges/Areas for Improvement



**Mixed Methods
Analysis**



**33 Major
Observations/
Findings**



**Diagnosed into 6
Core Issues**

Core Issues



Photo provided by City of Toronto

- 1. Three Major Events and Limited Snow Storage**
- 2. Major Snow Event Response Plan Lacked Details**
- 3. Reporting Tools Ineffective at Tracking Results**
- 4. Gaps in Contract Design for Extreme Events**
- 5. Snow Removal Not Clearly Defined or Resourced**
- 6. Communication Gaps and Misaligned Expectations**

Three Major Events - Limited Snow Storage

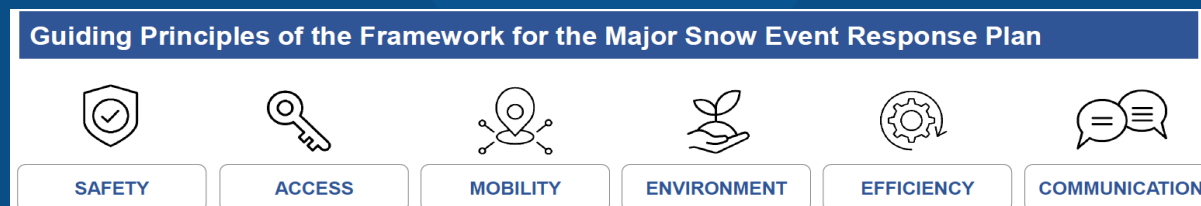
- **The magnitude and timing of the major Snow Event**
 - Three significant snow events over a 9-day period with over 58 cm of snow and freeze/thaw cycles
- **Storage capacity in the Right of Way was overwhelmed**
 - Dense urban grid with narrow streets
 - Illegally and legally parked cars and encroachments (poles, retaining walls, gardens, etc.) make even less room to store snow
 - Monolithic curb and sidewalks (lack suburban type boulevards)
 - Sidewalk plows cannot move large windrows left behind by street plows (even if they could there is no place for it to go)
 - Limited places for plows to safely store snow
- **Snow removal is the only option at this point**
 - Due to the 3 distinct storms – staff and contractors had to switch back and forth between 'snow clearing' and 'snow removal'



Photo provided by City of Toronto

Major Snow Event Response Plan Lacked Details

- **MSERP was presented to Council in July 2024**
 - The plan identified 6 Guiding Principles and a 5-Phase Action Plan
 - It identified triggers and base actions and a communications strategy
- **This was the first test of the Major Snow Event Response Plan and shortcomings became evident with various details lacking**
 - Detailed Priority 1, 2 and 3 'beat maps' for snow removal and hauling
 - Emergency type communications plans vs standard snow event messaging
 - Scenario planning for interruption of service such as Solid Waste and TTC
 - Resource 'surge' capacity plans for staff re-deployment, addition trucks for hauling and additional snow removal equipment
 - Clear roles and responsibilities and Incident Management style command
 - Detailed towing and parking surge plans



Reporting Tools Ineffective at Tracking Results

- **The City's current GPS and Automatic Vehicle Location tools useful for tracking plow movement**
 - Systems were not designed to measure final conditions on the ground
 - System logs whether a plow or salter has driven a route, and this is used as a proxy for completion
- **Reporting 'effort' vs 'results' causes confusion/frustration**
 - Reporting system showed high rates of completion but many sidewalks still not clear
 - Undermines ability to provide credible updates to Council and the Public and trust and accountability are eroded
- **Patroller work orders and reports not valuable in assessing real-time conditions in the field**
 - Managers receive more than 30 manual reports a day
 - Reports are email based and not standardized
 - Work orders and reports are not linked to GPS/AVL geospatially

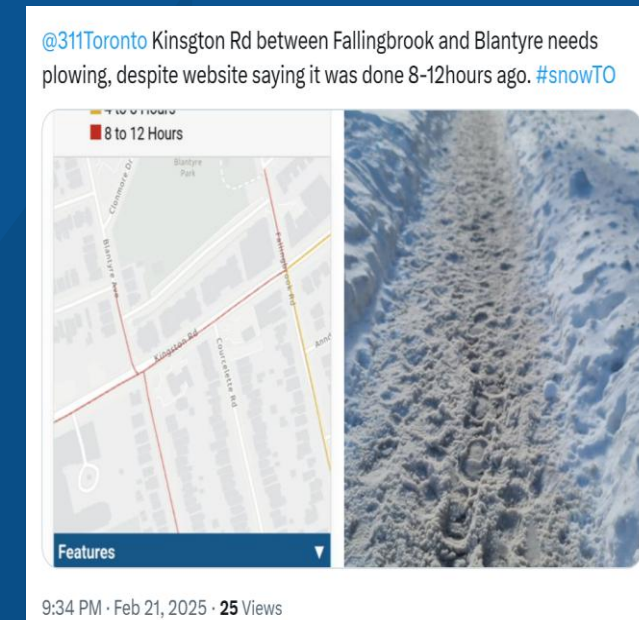


Photo from post on X to @311Toronto

Gaps in Contract Design for Extreme Events

- **Existing performance-based contracts are built to deliver efficient salting and plowing in routine storms**
 - 11 zones for efficient day to day operations
- **Contracts are not designed for major snow events**
 - No detailed language around snow removal service levels (MOTs)
 - No stand-by requirement for snow removal staff or equipment
 - No requirements for the contractor to secure 'surge' equipment/staff
 - Same crews and machines often handle both plowing and removal, which means hauling operations must wait until regular plowing tasks are done
- **The City has very few levers to enforce timely removal and ensure contractors maintain dedicated haulage capacity for extreme events**



Photo provided by City of Toronto

Snow Removal Not Clearly Defined/Resourced

Snow removal treated as exceptional and ad hoc activity, rather than integral part of storm response

- In the past snow removal has happened about every 3 years

No dedicated snow removal resources

- Some in-house equipment and contractor had some blowers, loaders and trucks
- Equipment and staff are not distinct from salting and plowing
- Trucking and hauling by a separate contractor, resources not sufficient for extreme events

Snow removal has never been a budgeted line item

- Snow removal only occurs once Right of Way has no further capacity, which is often too late (typically events over 25 cm)



Photo provided by City of Toronto

Communication Gaps and Misaligned Expectations

- **Winter communications have historically focused on routine, reassuring updates rather than true 'emergency-style' messaging**
 - Standard service type bulletins work well for standard winter events
 - Communications did not match the reality of prolonged delays, large piles and blocked pedestrian routes and extreme conditions
 - Overly optimistic statements caused frustration when Council and the Public were seeing a different reality on the streets and sidewalks
- **Results vs Effort messaging required**
 - Number of activations/rounds, number equipment units or staff, and tonnes of snow removed were not helpful in helping residents understand when their specific street or sidewalk would be cleared
- **Better communication and coordination with stakeholders** (TTC, TPA, Solid Waste Etc.)



WINTER EVENT
ADVISORY: 7 FOR: FEB 22

For the winter event of February 22, 2023, here is an update on Transportation Services' winter operations unit schedule of snow maintenance services as of Friday, February 24 at 3:00 p.m.

Note: These plans are estimates only and are subject to changing weather conditions.

CURRENT WEATHER FORECAST
Mainly sunny this afternoon, then clear this evening. Snow and snow showers Saturday morning, then snow showers Saturday afternoon, then partly cloudy Saturday evening. Partly cloudy Sunday morning and afternoon.

| Area | Forecasted Accumulation | Actual Accumulation |
|---------------------------|-------------------------|---------------------|
| TORONTO & EAST YORK (TEY) | ~ 16.4 cm snow | 12 cm |
| SCARBOROUGH (SC) | ~ 20.5 cm snow | 15 cm |
| NORTH YORK (NY) | ~ 21 cm snow | 12 cm |
| ETOBICOKE YORK (EY) | ~ 16.8 cm snow | 10 cm |

WINTER-RELATED 311 SERVICE REQUESTS (SRs)

CLEAR OUT PERIOD NOT IN EFFECT. Holds lifted on 311 winter SRs. Winter SRs are being accepted at this time.

| ACTION | ROUND | CURRENT BEGINNING OF ROUND (ESTIMATED) | CURRENT COMPLETION OF ROUND (ESTIMATED) |
|--------------------------------------|-------|--|---|
| TORONTO & EAST YORK (TEY) | | | |

Immediate Recommendation



Immediate Recommendations (2025/26)

Finalize and Operationalize a Detailed Major Snow Event Response Plan

- Complete Priority Mapping, Emergency Communications Plan, Scenario Planning, and Re-deployment and Surge Plans
- Testing and training of the detailed plan

Develop Distinct Snow Removal Contracts

- Contract should consider stand-by and unit costs for equipment and operators with appropriate supporting budgets

Strengthen Real-Time Reporting and Condition Monitoring Tools

- Finalize existing dashboard upgrades and digitize patroller reporting with real-time, geospatial solution



Photo provided by City of Toronto

Immediate Recommendations (2025/26)

Update & Strengthen Communications for Major Snow Events

- Emergency Communications Plan, revamped Councillor updates, parking communication strategy, and report **Results** not **Effort**

Expand and Modernize Towing Capacity

- Secure unit-based contracts with private tow operators and pair tow trucks with removal crews for efficient response
- Offer temporary free parking during major storm events in municipal lots or garages

Dedicated Year-Round Winter Operations Unit

- Unit to serve as the single point of accountability for ensuring that operational readiness, contracts, plans, technology, training, and inter-divisional coordination are maintained year-round



Photo provided by City of Toronto

Next Steps

Refined Recommendations

- Equipment and resource readiness
- Contractor management
- Service prioritization
- Escalation protocols
- Communications strategies
- Sidewalk & accessibility enhancements

Prioritization Framework

- Immediate (before Winter 2025–26)
- Medium-term (2026–2027 implementation)
- Long-term (structural reforms over 3+ years)

Costing and Feasibility Analysis

- Resource estimates (capital and operating) to facilitate budget planning, including funding gaps that could require Council decision-making

Risk Assessment

- Assess risks and dependencies (e.g. impact if contractor market capacity is limited, or if certain capital investments are deferred)

Closing Remarks

- Toronto has made real progress and significant change in modernizing winter operations – new contracts, better tools, improved coordination.
- But February 2025 revealed a fundamental truth: the current approach to snow removal is not ready for the scale and pace of major storms in a dense city such as Toronto.
- Solutions require systemic change, not stop gaps:
 - Treat snow removal as a core infrastructure service, not an occasional emergency.
 - Invest in people, equipment, contracts, and communications before next winter.
 - Rebuild trust through visible, measurable results on the ground.
- The roadmap is being developed. Decisiveness and a sense of urgency is needed now to turn recommendations into actions.

Thank You